Exercise on chapter 4

Consider the allocation model used in previous chapters involving three water consumers i. Allocations *xi* of water can be made from a given total amount Q (here 6 units) to the three consumers. The respective net benefits are *(6x1 − x12), (7x2 − 1.5x22)* and *(8x3 − 0.5x32).*

* 1. Discuss possible sources of uncertainty in model structure and model output, and identify & display parameter sensitivity.
  2. Perform a deterministic sensitivity analysis for the consumer 1. Consider the three parameters, x1, 6 and 1; the latter two numbers are the parameters of the net benefit function. Low values of these three parameters are 0, 3, and 0.5, respectively. Most likely values are 1, 6, and 1. High values are 2, 9, and 1.5. Display the results using a Pareto chart, a tornado diagram, and a spider plot.